

EARLY REFERENCES TO THE BEHAVIOR OF
AMERICAN SOLITARY WASPS.*

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Among the early observers of natural history in North America, John Bartram was the first to write about the solitary wasps. His observations were recorded in letters to Peter Collinson, of London, who presented them before the Royal Society in 1745, 1749, and 1763. Each paper subsequently appeared in the worthy *Philosophical Transactions*.

The first paper on "Some very curious Wasps Nests made of Clay" describes the nests of what are probably *Sceliphron caementarium* (Drury) and *Trypoxylon politum* Say. "The plain Clay-Nest is fabricated by a small black Wasp, of the same Species of that in TAB. III. Fig. 1. but less, that has a Speck or Stripe of Yellow in its Tail; and the Cells are made four or five together, joining Side by Side to each other. But the Clay-Nests that are so elegantly wrought are built by a purplish black Wasp, such as is figured TAB. III. Fig. 2.: After one Cell is formed, they stop it up, and join another to its End, and then add another to that; which makes these wrought Clay Fabrics longer than the plain ones." Curiously enough, both of the figures referred to seem to represent the same wasp (a member of the Sphecinae¹). The identification of the two species depends largely on the nests, which are also figured and more carefully described.

The second paper of John Bartram is on the life history of the Great Black Wasp from Pennsylvania, which stores its burrows with "a large Green Grasshopper." Reinhard has quoted this article in his recent book, *The Witchery of Wasps*, showing that the wasp Bartram observed was *Chlorion (Ammobia) pennsylvanicum* (Linn.).

The third and last paper describes the habits of the Yellowish Wasp of Pennsylvania which feeds the larva from day to day, until it is full-grown. This is one of the first accounts of progressive provisioning by a solitary wasp, and was discredited by

* Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 327.

¹ As used by Kohl.

Westwood in his *Introduction*.² Since the wasp is neither described nor figured, it has to be determined from its behavior. Ashmead thought it was a Bembicid, Parker included it in the Bembicini, and according to Dr. Bequaert, it is probably *Bembix spinolae* Lep.

A second early observer was Mark Catesby, a friend of both Bartram and Collinson. In 1731 and 1743, he published the first and second volumes of *The Natural History of Carolina, Florida and the Bahama Islands*. An appendix printed in 1748 contains figures and descriptions of two mud-daubers, *Vespa Ichneumon* and *Vespa Ichneumon coerulea*. In the "Linnaean Index of the Animals and Plants" which appeared in the third edition of 1771 and was presumably written by George Edwards, the editor, *Vespa Ichneumon* is not determined, but from the colored figure and the fact that it provisions a clay nest with spiders, it can be identified as *Sceliphron caementarium*.

Vespa Ichneumon coerulea is probably *Chalybion caeruleum* (Linn.), since it is determined in the Linnaean Index as *Sphex coerulea*. Although Linnaeus described two different species under that name, the index must refer to the second since the first was described as a species with subsessile abdomen. Linnaeus comments on the second *Sphex caerulea* as follows:³ "*Catesb. car. 3. p. 5. t. 5? sed punctum nullum in alarum apice.*" The spots on the tips of the wings are very conspicuous in Catesby's figure, but cannot be explained unless Catesby confused the mud-dauber with some other wasp, and drew, for example, a species of *Podium*. Catesby says that *coerulea* builds clay nests which he describes with sufficient detail to classify as those of *Trypoxylon politum*. Although *Chalybion* does not build its own nests, there is no record of its ever nesting in the cells of *Trypoxylon*. Thus Catesby was not only the first to say that *Chalybion* was a true mud-dauber, but he even associated it with the wrong type of nest.

Over fifty years later, Benjamin Henry Latrobe, a prominent architect of Philadelphia and Washington, also figured and described two mud-daubers. His paper was read before the American Philosophical Society in 1803, and published in the *Transactions* (1809). The same article was also published in England

² *Introduction to the Modern Classification of Insects* 2: 207.

³ *Systema Naturae* (12th edition) 1 (2): 941. 1767.

in the *Philosophical Magazine* (1806), but the text was different and without figures. The observations on which Latrobe based his contribution were made while he was in Virginia, and recorded in his journal along with brief notes on one or two other solitary wasps, four social wasps, and one or two bees.

The mud-dauber which Latrobe calls *Sphex pennsylvanica* Linn., is probably *Sceliphron caementarium*. The figure is reasonably good and the yellow markings are described in the text. The other mud-dauber which is classified as *Sphex caerulea* Linn., is obviously *Trypoxylon politum*. Part of the description reads as follows: "From the scutum attached to the petiole, is extended a strong hook, which is very serviceable to him in securing his prey. His sting is not very painful, and soon ceases to be troublesome." Latrobe failed to notice any sexual differences in the specimens he observed, or he would have found that the wasp which captures the prey has no hook on the petiole, and that the wasp with a hook on the petiole cannot sting. He would also have discovered the presence of both sexes about the nest, a situation peculiar to the genus *Trypoxylon*.

In reviewing the contributions of these early naturalists, I have attempted only to classify their material according to our present nomenclature and bring their observations up to date. As a result, I have largely obscured both the scientific and historical importance of their work.

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Uloma imberbis Lec.—This seems to be a very scarce inhabitant of this part of the country if my luck in their capture is any criterion. One specimen from Framingham, April 12, 1905, and one from Monterey, August 1, 1920, are all I have to record for about 30 years of intensive collecting about here. Mr. H. C. Fall writes me that he has no specimens from New England and there is only one specimen in the collection of the Boston Society of Natural History, which bears no locality and the date of August 25, 1875.—C. A. Frost, Framingham, Mass.

Bugs at Light.—During the summer of 1929, the following Heteroptera flew into my house at night, attracted to light: *Myodochus serripes* Oliv., *Heraeus plebejus* Uhler, *Ligyrocoris diffusus* Uhler, *Trigonotylus ruficornis* Fall., *Tr. brevipes* Jak., *Deraecoris ruber segusinus* Reut., *Adelphocoris rapidus* Say. My house is set almost at the top of a hill in the City of White Plains, overlooking a damp meadow and a pond, in the grounds of Bloomingdale, on Westchester Avenue. Doubtless this situation explains the coming of these Heteroptera.—J. R. DE LA TORRE-BUENO, White Plains, N. Y.